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# THE Agricultural Situation

**OCTOBER 1950**

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U. S. DEPARTMENT OF AGRICULTURE

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# Fewer Herds

# ... More Milk

IN THE PAST two decades, milk production on United States farms has increased by 20 billion pounds, or one-fifth, while the number of milking herds has declined. In some of the individual dairy States, changes have been even more spectacular. In New York, for example, one-half more milk is marketed by 15 percent fewer farmers than in 1929.

Milk is produced on about  $4\frac{1}{2}$  million of the 6 million farms in the United States. On about 2 million of these, the milk is produced solely for home use. Most of these farms have only one or two cows, but their milk provides an important part of the food of some 9 million farm people. On the other  $2\frac{1}{2}$  million farms that have milk cows, some milk, cream, or farm-churned butter is sold. These sales range from a few pounds of farm-churned butter per year up to thousands of pounds of milk per day. The income from the dairy products marketed may be a weekly cream check that buys the groceries or, as is the case for more than half a million farms, may represent more than half the income from all farm products.

## Big Herds Specialized

The number of milk cows kept is a rough measure of the importance of the dairy enterprise to a particular farmer. Producers with one or two milk cows supply the farm family but make only a negligible contribution to the commercial supply of milk. Herds of three to nine milk cows not only supply the farm family, but also provide a considerable amount of dairy products for sale. Milk production on these farms is usually a side-line or is complementary to other crop or livestock enterprises or off-farm employment. Where milking herds reach 10 to 19 cows, the enterprise, as a rule, is of major importance. When the herd exceeds 20 cows, the farm is usually highly specialized in milk production.

The large increase in volume of milk

produced over the past 20 years has been accompanied by a marked shift in the volume of milk produced in different size of herds. Strangely enough, there are now actually more one- and two-cow herds than there were 20 years ago, and their production represents about the same percentage of total. This means that on one-third of the farms in this country milk cows continue to serve the major purpose of supplying the family table. Any shift toward large-scale dairying has not been at the expense of the diets for these farm families.

## Contrasting Trends

Among commercial producers, the changes in volume between small and large operators contrast sharply. A score of years ago, farmers having three to nine milk cows contributed more to total milk production than any other group. Since 1929, the number of these herds has decreased about one-fourth and the amount of milk they produce has dropped 12 billion pounds.

Larger commercial herds have shown an opposite trend. Between 1929 and 1949, herds of 10 to 19 cows increased in number and their output of milk rose 8 billion pounds, or more than one-fourth. The greatest contribution to the increase in production, however, has come from the large herds. Output from herds of 20 milk cows or more has doubled in the past 20 years. These herds now furnish more milk than any other of the principal groups. (See the accompanying chart.)

These shifts have not come about without a reason. In a mechanical age, the general trend is toward larger individual enterprises whether in factories or on farms. Improved transportation, refrigeration, machinery, and equipment have encouraged greater specialization in the dairy field. New market opportunities and wartime operating problems of the past decade speeded changes in milk production.

Labor shortages during World War II did much to de-emphasize the small commercial milking herd. With many men leaving the farm for the armed forces or to work in war industries, operators had to get along with less labor. Because dairying requires attention twice a day, 7 days a week, milking had less appeal than certain alternative enterprises. Labor-saving machinery did not make as great strides in milk production as in many types of crop production, but nevertheless it was a factor encouraging larger herds. Between 1940 and 1950, the number of milk machines on farms increased threefold. There are now on farms 1 milking machine for every 3 milking herds of 3 cows or more. Of the larger herds—20 cows or more—4 out of every 5 are milked by machine.

### Needed Cream Check Less

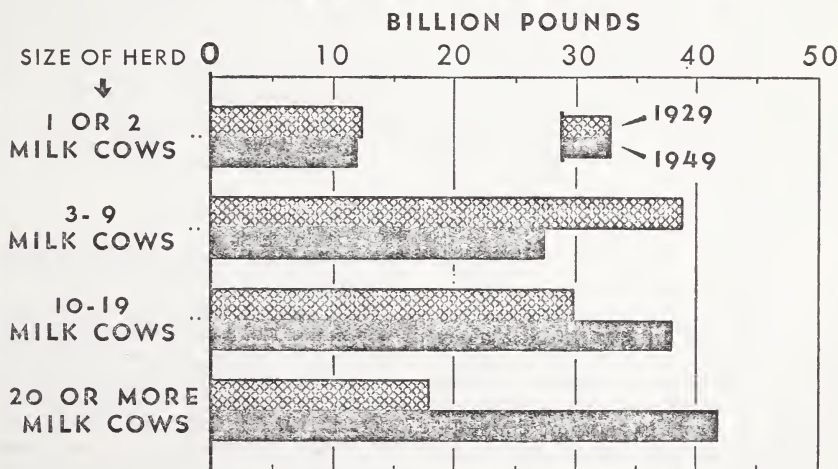
During the war, demand for whole milk was increased more than for cream which is sold by most farmers with smaller commercial herds. During the war, price ceilings and incentives tended to favor sale of milk and hence encourage large herds rather than small ones. After the war, live-

stock prices rose much more sharply than cream prices, and many of the dual-purpose-type cows milked in these smaller herds could be readily shifted to raising calves. With income substantially increased by grain and live-stock sales at good prices, farmers had less need for the regular cream check.

### Some Favorable Factors

Will the small commercial milking herd regain some of the ground lost in recent years? There are some favorable factors. Artificial breeding associations which are spreading rapidly permit the small farmer to improve his milking stock as fast as his bigger neighbor. From the feed angle, interest is again developing in shifting acreage from cultivated crops to grasses to conserve the soil. A few milk cows provide a good market for this additional pasture or forage, much of which will be on farms not now selling dairy products. Some postwar drops in farm income have already increased interest in keeping a few milk cows on farms in some areas. If farmers generally again become hard pressed for cash, need for the regular milk or cream check is bound to soar.

## MILK PRODUCTION BY SIZE OF HERD



On the other hand, the sideline milk producer is handicapped in competing with his more specialized neighbor. As a rule, larger herds are more efficient. Milk production per cow in herds of 20 or more averages a fourth to a half higher than in herds of 3 to 9. Cows in larger herds can be more carefully selected. Labor can be more specialized and often better trained which means improved practices are more quickly adopted. Machinery and equipment are better adapted to, and more efficiently utilized in, large herds. These factors all work toward lower cost milk production—a primary objective if dairy products are to keep in the good graces of the consumer.

In present day markets, the smaller herds are also working at a greater disadvantage than formerly. The sideline dairyman usually is some distance from fluid milk markets. He usually markets cream which is used principally for making butter. In the past 20 years, consumption of butter has declined one-fourth, and on a per person basis is only three-fifths as high as in 1929. Prospects for recovery are uncertain. Margarine consumption has greatly increased and the recent removal of the 10-cent Federal tax from yellow margarine will not make it any easier to build back the butter market. Over time, the competition with margarine will probably mean a less favorable price for butter than for products which include all ingredients of milk.

In contrast, consumption of products obtained from whole milk are far above the levels of 20 years ago—fluid milk consumption up a third and cheese, evaporated milk, and ice cream about double. Furthermore, emphasis on quality dairy products is gaining. In many fluid markets standards of production make it impractical or impossible for the small herd owner to compete for the market. Even in the case of butter, the high quality of product essential to an expanding market requires care of the raw product more easily attained under specialization than as a sideline enterprise. In the long run, it appears likely that these factors will result in more of our milk production coming from fewer and larger herds.

John L. Wilson  
*Bureau of Agricultural Economics*

# Outlook Highlights

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## Going Up

"Expanding" is the word that best describes the state of the Nation's economy. Employment and industrial production have pushed up to new peaks. Construction work continues at record levels. Prices in farm, wholesale and retail markets are generally climbing although the pace has slowed down since July.

The prospect is that the next few months will bring more of the same. Military expenditures under the new program will become more important. Businessmen have changed their plans and are now expected to spend more for plants and equipment than they had intended earlier. Another round of wage increases is under way.

Higher wages, higher raw material costs, and a stronger demand probably means higher prices, particularly for industrial commodities. Prices of farm products, however, may weaken during the rest of the year. Seasonal increases in supplies may bring declines for several important commodities.

## Price Controls

Under the Defense Production Act of 1950, the President has authority to set price ceilings for materials and services under certain conditions. Concerning farm products, the act provides that no ceiling shall be set below the highest of the following prices, after adjustment for grade, location, and seasonal differentials:

1. The parity price, or
2. The highest price received by producers during the period from May 24, 1950, to June 24, 1950, or
3. For any product for which the market was not active during the May 24-June 24 period, the average price received by producers during the most recent representative period before May 24, 1950, in which that commodity was active, adjusted in line with the general level of prices received by producers for all farm products during the May 24-June 24 period.

# Hay Harvesting Methods

—old and new

**I**N RECENT years, hay has joined the long list of crops that are harvested largely by machines. But no one machine or method has been developed that dominates the hay harvest as the combine dominates the wheat harvest. While use of modern machines such as the automatic-tie pickup balers and the field choppers has increased rapidly, many farmers still rely on the older types of equipment, or on hand labor, and find that it is economical to do so.

Differences in investment, labor requirements and costs for the various ways of getting hay from the windrows into storage, are shown in the accompanying table. The investment for methods in which hay is loaded and unloaded by hand is less than a tenth that required for some of the highly mechanized methods. Although more labor is required for hand methods than for most other methods, much of

the labor usually is not a cash expense. Most of the work usually is done by the family and there is considerable exchange of work with neighbors.

As the amount of machinery used for putting up hay increases, the investment rises while the amount of labor used tends to decline. But costs vary considerably among the different methods. In some cases, expenses for new methods are considerably higher than for older ones.

For example, loading by hand and unloading with a power fork takes about 4 hours of labor per ton while the automatic-tie pickup baler can do the job with only 2 hours per ton. In the first case, though, the investment in equipment is only about \$200 while in the second it is more than 10 times as much. A farmer putting up only 10 to 20 tons of hay cannot afford a pickup baler unless he can do a great deal of custom work.

## How Hay Harvesting Methods Compare

Method of harvesting	Average investment in equipment <sup>1</sup>	Average hay handled per crew hour	Typical size of crew	Average labor per ton	Average cost per ton <sup>3</sup>
	Dollars	Tons	Number	Man-hours	Dollars
Load and unload by hand—barn or stack.....	158	0.7	3	4.5	4.66
Load by hand, unload with power fork—barn.....	208	.7	3	4.0	4.31
Load with loader, unload by hand—barn.....	387	.6	2	3.5	4.10
Load with loader, unload with power fork—barn.....	437	1.1	3	2.8	3.54
Buckrake to barn, draw in barn with power fork.....	373	1.6	3	1.8	3.15
Buckrake to mechanical stacker.....	538	2.0	3	1.5	3.15
Buckstaker.....	578	3.0	3	1.0	2.40
Buckrake to stationary baler.....	1,016	1.7	6	2 3.5	6.72
Baling—automatic-tie pickup baler.....	2,253	2.6	1	2.5	4.33
Baling—3-man pickup baler.....	1,466	2.4	3	2 1.2	4.82
Chopping—stationary chopper.....	809	1.0	2	2.1	3.37
Chopping—pickup chopper.....	2,342	3.5	4	1.1	3.34

<sup>1</sup> Investment in the machines and equipment used in 1945 harvesting; averages include purchase prices of both new and used machines bought in 1945 or in prior years.

<sup>2</sup> Man-hours labor for baling only. Labor for hauling and storing bales averaged 1.1 man-hours for stationary baler, 1.5 man-hours for automatic tie pickup baler and 1.5 for 3-man pickup baler.

<sup>3</sup> Includes cost of mowing and raking.

Among methods listed in the table, stacking hay with a buckstacker (combination buckrake and stacker) is most efficient and cheapest. A crew of three men with a buckstacker can harvest and stack about 3 tons of hay per hour. This method is used chiefly in the drier areas where most of the hay is stacked.

In more humid areas, most hay is put in barns or sheds, and farmers generally cannot use buckstackers. In these areas, the most efficient and cheapest method of handling long, loose hay is to haul the hay from the field with a buckrake and then draw it into the barn with a power fork. A three-man crew can handle an average of 1.6 tons per hour, about 30 percent more than the same size crew can handle when using a hay loader and wagon.

### Haul Must Be Short

Average total haymaking cost per ton, including mowing and raking, was about 10 percent less for farmers who used buckrakes than for those who used loader and wagon. But use of buckrakes is limited to fields near the place of storage. The efficiency decreases as the length of haul increases.

Most expensive methods were harvesting with the stationary baler and the three-man pickup baler. Even with the automatic-tie pickup baler, baling is not a cheap method. Although labor requirements are about the same as with the buckrake and power-fork method, the cost of baling with an automatic-tie pickup baler and storing in the barn is more than a fourth greater. The difference is primarily accounted for by the greater machine costs.

Despite the high cost of baling, this method of harvesting hay has increased rapidly. In recent years, about half of our total hay crop has been baled compared with only 27 percent in 1944. Much of the increase probably is due to the speed of the operation. Weather permitting, baling takes little time—a good average for the pickup baler is around 2½ tons per hour. In addition, the farmer usually gets a crew large enough to get the bales into storage quickly. As a result, the crew for bal-

ling and storing usually is much larger than would have been used if the hay were being put up loose.

The convenience of baling also recommends it to many farmers. Baled hay is easier to handle, haul and feed than loose hay. And if a farmer wants to sell part of his hay crop, baled hay finds a market more readily than loose hay. The combination of convenience and speed is likely to cause the amount of hay baled to increase in spite of its expense.

Use of pickup field choppers for harvesting hay also has increased rapidly in recent years, but this method still accounts for less than a tenth of all hay harvested. The chopper harvests hay with less labor and at considerably less cost per ton than balers. Operating the machine, hauling the chopped hay and operating the blower which elevates it into the barn usually takes a crew of 4 men which can average around 3.5 per hour or 1.1 man-hours per ton. This is less than for any of the other methods except the buckstacker method.

### Use is Limited

Weather, inadequate storage facilities and other factors limit the use of the pickup chopper. But where conditions favor it, it is an efficient and cheap means of harvesting. The fact that pickup choppers are used for other crops—principally silage crops—helps lower costs charged to the hay.

Hay is grown on about 6 out of every 10 farms, and accounts for approximately 1 out of every 5 acres of harvested cropland. And the haymaking job shows promises to get even bigger as more attention is given to conservation and grassland agriculture. General mechanization of the hay harvest has lagged behind the mechanization of other major crops, and at present haying is still a heavy, arduous job for many producers. To find machines and methods to harvest better quality hay cheaper and quicker is a challenge to farmers, engineers, and manufacturers.

Robert E. Marx  
*Bureau of Agricultural Economics*

# Regular Farm Workers Now Eligible for Social Security

**M**ANY FARM employees are among the nearly 10 million workers to whom old-age and survivors insurance is extended, beginning January 1, 1951, by the new amendments to the Social Security Act.

About one-half million regularly employed workers on farms and in farm households are to be covered for the first time by this Federal social security program. They may thus qualify for old-age insurance benefits and for the benefits paid to survivors if a wage-earner dies. The new law brings the number of workers under the program to about 45 million, or nearly three-fourths of the Nation's labor force in an average week.

Not only persons doing general farm work but also those working in a farmer's home are defined as agricultural labor by the new law. Employees who perform the following kinds of work will be covered: planting, cultivating, or harvesting any farm crop; raising or tending livestock, bees, or fur-bearing animals on a farm; preparing, processing or delivering crops or livestock to storage or to market; cooking or doing other household work on a farm; or doing other general farm work.

## How Workers Qualify

Whether or not a farm worker is covered is determined, with respect to his work for each of his employers, on a calendar quarter basis. The first quarter begins January 1, the second April 1, the third July 1 and the fourth October 1. Before he can be covered, a farm worker must work for an employer during a qualifying period of one entire calendar quarter.

After he has served the qualifying period, the employee will be covered in each succeeding quarter with the same employer as long as he continues to work at least 60 days on a full-time basis and earns cash wages of \$50. He will also be covered for the first quarter in which he works less than 60 days if he earns cash wages of at least \$50.

In this event, before he can be covered in any future quarter, he must again serve a qualifying period.

Only wages paid in cash count for a farm worker's social security. Payments in the form of room, board, farm products, firewood, or other perquisites cannot be counted.

## Bill Smith's Case

As an illustration, take the case of Bill Smith who has been working for Albert Jones as a dairy hand. Bill has worked for Mr. Jones all of the fourth quarter of 1950; therefore, he can be covered for social security beginning January 1, 1951. During January, February, and March of 1951, Bill works continuously for Mr. Jones and earns \$200 in cash wages. These wages will count for social security.

In May 1951, Bill takes another job, with Mr. Roy Alman. Thus, during the April-June quarter of 1951, Bill works 24 days for Mr. Jones and earns \$65 in cash. He works 48 days for Mr. Alman and earns cash wages of \$150. Bill's work for Mr. Jones counts for social security but not his work for Mr. Alman, because he has not yet worked a "qualifying quarter" for him.

During the third quarter of 1951 (July-September), Bill works full-time on the Alman farm and earns \$250 in cash. These wages also are not counted for social security. Bill's work for Mr. Alman in this third quarter, however, is his "qualifying quarter" with Mr. Alman. Consequently, as Bill continues to work for Mr. Alman all the fourth quarter of 1951, his wages in that quarter again count for social security.

Owners or operators of farms do not come under the program and will not get credit toward old-age and survivors insurance benefits for their farm earnings. Wages paid by an employer to his children who are under 21 do not count toward social security and neither do wages paid by a husband to

his wife, by a wife to her husband, or by sons and daughters to their parents.

In order to receive benefits, farm workers, like all other persons, must work long enough under the program to become insured. Whether or not a person has worked long enough to be insured is determined by the number of "quarters of coverage" he has to his credit. A quarter of coverage means a calendar quarter in which the individual was paid wages of \$50 or more for employment covered by the program, or a calendar quarter to which \$100 or more in self-employment income was credited.

### How Coverage Is Determined

An individual or his family may receive any of the various types of benefits provided he is "fully insured." He is "fully insured" if he has to his credit at least half as many quarters of coverage as there are calendar quarters between January 1, 1951 (or the date he becomes 21 years of age if that is later) and the time he becomes 65 years old or dies. In no case, however, can a wage earner be fully insured with fewer than six quarters of coverage. He is fully insured in every case if he has at least 40 quarters of coverage.

Even though an employee is not fully insured, his survivors may nevertheless be eligible for certain of the benefits of the program if he is "currently insured." In order to be currently insured he must have had at least six quarters of coverage during the 3 years immediately prior to his death.

When a fully insured individual attains age 65 and retires, he can receive monthly cash benefits. His wife may also receive monthly benefits when she reaches age 65, or at an earlier age, if she is caring for a child who is eligible for benefits. The wage earner's

children may receive benefits if they are under age 18. If the wage earner is a married woman with a dependent husband, the husband can receive monthly benefits at age 65 if his wife was both fully and currently insured.

When a fully insured individual dies, his children under 18 may receive monthly benefits, and his widow may receive monthly benefits if she is caring for his children who are receiving benefits. Her benefits will continue until the youngest child is 18. If she is not yet 65 at that time her benefits will stop, but she will again be eligible for benefits when she attains age 65. If the deceased wage earner leaves no widow, widower or children who can ever become entitled to monthly benefits and if his parent were dependent on him when he died, they may receive monthly benefits at age 65.

If the wage earner was currently but not fully insured when he died, monthly payments may be made to his young children and to his widow while caring for the children. However, in currently insured cases the widow is not eligible for benefits at age 65.

### Wages Determine Benefits

The amount of benefits payable under the program depends on the average monthly wage of the worker. The benefits will be computed by taking 50 percent of the first \$100 of the average monthly wage plus 15 percent of the next \$200. The wife's benefit is equal to one-half of the husband's benefit. A widow's benefit is equal to three-fourths of the husband's benefit. The benefit for the first child in a survivor family is three-fourths of the wage earner's benefit amount; other children each receive one-half.

The following table shows monthly benefit amounts payable to various groups at given levels of average monthly wage:

Average monthly wage	Retired worker alone	Retired worker and wife	Widow at age 65	Widow and two children
\$50	\$25	\$37. 50	\$18. 75	\$40
100	50	75. 00	37. 50	80
200	65	97. 00	48. 80	130
300	80	120. 00	60. 00	150

The minimum monthly benefit payable to a retired worker under the program is \$20; the maximum payable to any family is \$150.

A lump-sum is payable to qualified survivors upon the death of an insured wage earner, irrespective of the payment of monthly survivor benefits and will equal three times the primary insurance amount. In most instances, the lump-sum death payment will be between \$120 and \$180.

It is important for workers to remember that no social security payments can be made until a claim is filed. Whenever a worker reaches age 65 he should call at the nearest social security office and ask about benefits, even though he has not retired, or is not sure whether he is eligible for payments. In case a worker dies, his family should notify the social security office and ask about benefits.

### Limit Back Payments

These steps are important because the law permits monthly payments to go back no more than 6 months from the date on which a claim is filed. The lump-sum can be paid only if a claim is filed within 2 years after the worker's death.

Benefits for a retired worker under 75 are not payable for a month in which he earns more than \$50 wages in employment covered by old-age and survivors insurance. Beginning in 1951 benefits for one or more months will not be payable to a beneficiary under 75 who does substantial work as a self-employed person, if his net earnings from self-employment in a taxable year average more than \$50 per month. All beneficiaries aged 75 and over will receive all of their benefits regardless of the amount of their wages or net earnings from self-employment.

Benefits will continue to be paid if a worker receives income from other sources such as annuities, dividends from stocks or interest from bonds. Thus a person does not have to be in need before he can claim benefits. However, a husband, widower, or par-

ent must establish that the worker on whose record he claims benefits has been furnishing at least half his support.

The fund from which the retirement and survivors insurance benefits are paid is built up by contributions from employees, employers, and the self-employed who come under the program. After January 1, 1951, an employer of farm workers who are covered by social security will deduct 1½ percent from the cash wages he pays these workers, and will add another 1½ percent as his own contribution. The money will be sent to the nearest office of the United States Collector of Internal Revenue at the end of each calendar quarter. The collector will furnish a form on which the employer will fill in the name of each employee and his social security number exactly as shown on his social security card, and the amount of cash wages he paid the employee during the quarter. This form will then be sent, with the contributions, to the collector of internal revenue.

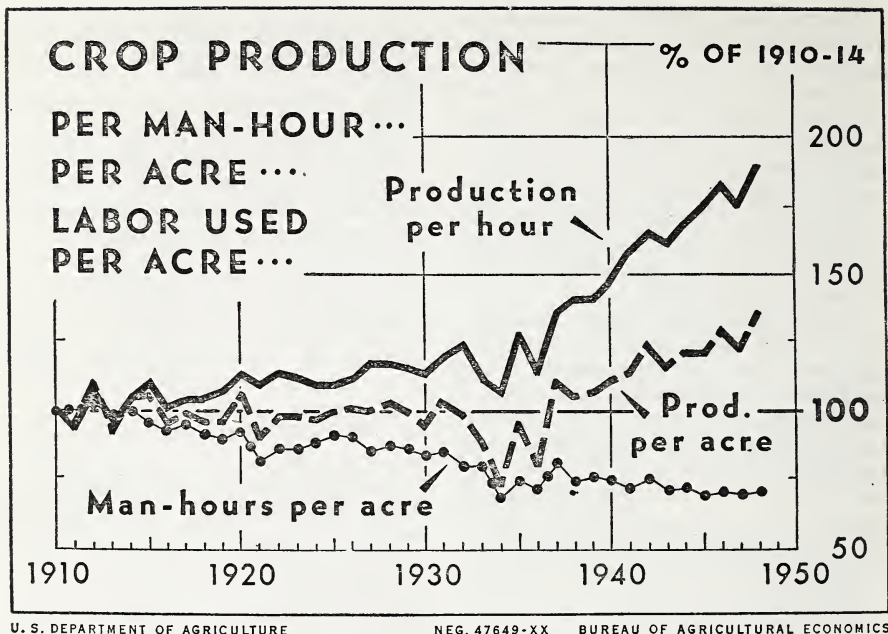
The social security contribution will continue to be 1½ percent of the employee's wages through 1953. The rate will then be 2 percent from 1954 to 1959, 2½ percent from 1960 to 1964, 3 percent from 1965 to 1969, 3¼ percent after 1969. These tax rates apply to only the first \$3,600 of the worker's annual wages.

### A Card is Needed

Regular farm workers who do not already have social security account number cards should get them at the nearest social security office, if it seems likely that their work will come under social security. If there is no office near the farm, applications may be secured at the nearest post office and mailed to the social security office.

Employers of farm workers who will be covered by the new law should get instructions from their local collectors of internal revenue.

Arthur J. Altmeyer  
*Federal Security Agency  
Social Security Administration*



U. S. DEPARTMENT OF AGRICULTURE

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BUREAU OF AGRICULTURAL ECONOMICS

## More Production

## with Less Work

FARMERS are producing more farm products with fewer hours of labor than ever before. Output of farm products for human use is now about 70 percent greater than before World War I while the time spent at farm work is 15 percent less. This means that production per hour of farm work has doubled in less than 40 years with about half of the gain coming in the last decade. With favorable weather, productivity of farm labor could be increased quickly if the need develops.

The gain in productivity of farm labor has not been the same in all parts of the country nor for the different farm products. The rise in production of crops per man-hour has been greater than the rise in livestock production.

The influences resulting in the increase in crop production per man-hour fall into two groups: those that chiefly affect yields per acre, and those that mainly influence the labor used per

acre. This is not a clear-cut distinction, however, as crop yields and labor requirements are interrelated. Part of the reduction in man-hours of labor per acre of crops has been offset by the increase in yields. For some crops, such as potatoes, the increase in yields has been so great that more man-hours are required per acre than formerly. But for most crops the labor used has gone down despite the higher yield.

Until about 1930 the reduction in man-hours of labor per acre was wholly responsible for the increase in productivity of labor used in crop production. Crop production per acre changed little until after the droughts of the 1930's. Since that time, the rapid increase in yields has been more influential in raising the productivity of labor than the continuing reduction in man-hours per acre.

The cut in labor used per acre of crops has been due chiefly to increased

use of mechanically powered machines. The list of these machines is long. Small grain combines, corn pickers, field forage harvesters for both hay and row crops, mowers and other haying machines, and cultivators and other tillage implements are important items. Greater use of automobiles and motortrucks also have reduced time for farm-hauling jobs.

The list of factors that have raised crop yields also is long. Weather has been very influential during recent years, but over the long pull, other factors are more important. These include the use of new hybrids and varieties of crops—of which hybrid corn is an outstanding example—increased application of fertilizers and lime, adoption of soil- and moisture-conserving practices, more effective control of pests and diseases, and irrigation and drainage.

### Livestock Output Lags

Over the long run, the increase in production of livestock products per hour of labor has lagged behind the rise in crop production per hour. This resulted chiefly from the fact that live-

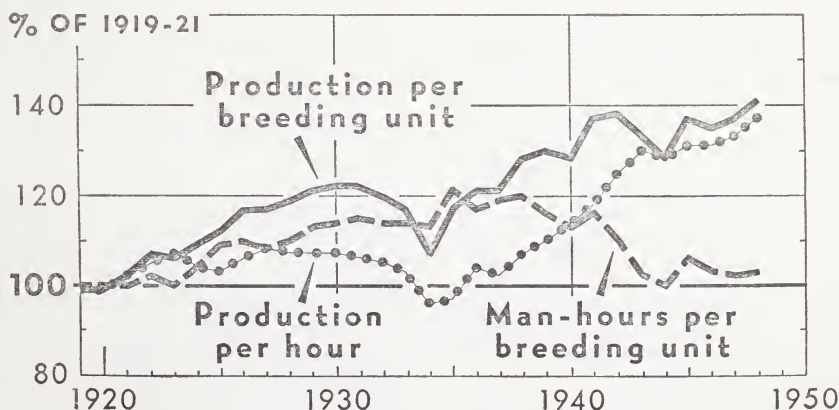
stock production has not been mechanized nearly as much as crop production. But in recent years, productivity of labor used in production of livestock products has increased at a rate more nearly in line with the productivity of labor used in crops.

### More Per Breeding Unit

Although the productivity of labor in livestock production has gone up less than that used in crop production, the increase in production per breeding unit of livestock has exceeded the rise in crop production per acre. Livestock production per breeding unit rose rapidly from 1919 to the early 1930's. Part of it resulted from getting more milk per cow, eggs per hen, and pork per sow farrowing. Also contributing to the increase were reduction of death losses, feeding meat animals to heavier weights, and raising more calves, lambs, chickens, and other young stock relative to number of adult animals on farms. The man-hours of labor used per breeding unit also went up but less rapidly than production per breeding unit because the labor required to handle more milk per cow or eggs per

## LIVESTOCK AND PRODUCTS\*

*Production Per Man-Hour, and Man-Hours and Production Per Unit*



\*INCLUDES ALL LIVESTOCK EXCEPT HORSES AND MULES

hen did not increase in proportion to output. These changes brought a moderate upward trend in livestock production per hour of labor.

### Milking Machines Gain

Since the drought years of the 1930's, the time spent per breeding unit has gone down rapidly despite a continued increase in production per unit. Mechanization of livestock operations was chiefly responsible. Use of milking machines increased rapidly as more farms were electrified. Other machines, such as feed and litter carriers and barn cleaners and new methods helped reduce the labor used per unit of breeding livestock. The significant downward trend in time required joined with the continuing rise in production per unit of breeding livestock to push production per man-hour sharply upward.

Although the remarkable rise in productivity of farm labor that occurred during the last decade may never be duplicated, the upward trend during the last 40 years in all likelihood will continue. Indications are that mech-

anization of farm operations, which has contributed a lot to the reduction in man-hours of labor per acre of cropland and per unit of breeding livestock, will continue. The South, particularly, offers a fertile field for the greater use of machines on farms. The full impact of electrification on farm jobs is yet to be felt.

### Farm Life More Pleasant

On the production side, plant and animal breeders indicate that the fields of hybridization and the development of higher yielding crops and animals are far from exhausted. Results of experimentation and research have aided in the gains in labor productivity in the past and their contributions will continue to be made.

In addition to increasing labor productivity during the last 40 years, progress in farming has taken much of the drudgery out of farm work. Many of the heavy jobs have been reduced or practically eliminated. Farm life is now more pleasant and the country a better place to live.

Reuben W. Hecht  
*Bureau of Agricultural Economics*

## How Federal Land Banks Make Loans

THE AMOUNT of money owed by farmers on short-term debts has been creeping upward in recent years. The rise in production costs has forced many to borrow money to finance the growing and harvesting of crops and the feeding of livestock. Credit has been freely available and many farmers have found loans easier to obtain than was the case in many past periods.

With the decline in net farm income, however, repayment of these short-term loans has been difficult for many of these farmers. A growing number have refinanced their short-term debts with farm mortgages.

The growth in agricultural indebtedness also has been stimulated by the fact that some farmers are borrowing to finance themselves while making ad-

justments in their type of farming to bring production more in line with market demands. These changes often require substantial capital investments and many farmers do not have sufficient funds, at least in the early stages of the shifts.

Farmers often obtain loans they need through the 1,200 national farm loan associations of the Federal land bank system. Those who plan to transact business with the Federal land banks may be interested in the way in which the banks determine how much they may lend a particular farmer.

The Federal land bank system is a farmers' cooperative credit system. Loans are not made from Government funds but from funds obtained by selling bonds to the investing public.

These bonds are not guaranteed in any way by the Government but are secured by the notes and mortgages taken by the banks. To keep a favorable market for these bonds, the banks must maintain a strong financial condition and their lending policies must be kept sound.

The Federal land banks have had a growing demand for farm mortgage credit to finance short term indebtedness in recent years. The banks also have been able to finance many farmers who are faced with the problem of making rather drastic changes in their farming operations. Furthermore many borrowers have used the proceeds of their loans for improvement of buildings and land, and for the purchase of equipment and livestock.

### Law Sets Policy

The basis on which Federal land bank loans can be made to farmers is specified in the Federal Farm Loan Act. A Federal land bank loan may not exceed 65 percent of the appraised normal value of the farm for agricultural purposes or \$100,000, whichever is lower. To understand the limit on the size of the loan, we need to know what is meant by the normal value of the farm for agricultural purposes.

The normal agricultural value of the farm is defined as "The amount a typical purchaser would, under usual conditions, be willing to pay and be justified in paying for the property for customary agricultural uses, including farm home advantages, with the expectation of receiving normal net earnings from the farm."

### In-Between Values

Normal net earnings are simply the expected long-time net earnings from a farm. Since Federal land bank loans may be for terms as long as 40 years, it is not considered sound loan policy to base loans on income in years when it is extraordinarily high or on income in depression years when it is extremely low. Loans are based on values which represent in-between conditions.

Determining normal agricultural values of farms involves a difficult job

of forecasting. The experience of the land banks in the 33 years they have been making loans to farmers has been studied by appraisers for the purpose of arriving at normal agricultural values. These studies also include changes in types and methods of farming, and trends of prices, production, and costs. Frequently they have resulted in a broadening of the services of the banks in particular areas. In other areas, the studies may show that land bank loans are being made on too full a basis for the real welfare of either the borrowers or the banks.

The Federal land banks, in basing loans on normal agricultural values, attempt to avoid long-term loans based on current sale prices of land at times when it may be either abnormally high or low. Experience shows that most farmers who borrow on their farms up to amounts approaching their sales value during times of inflation have difficulty repaying the debt when income declines. On the other hand, many farmers would have no basis for farm mortgage credit in periods of depression if loans were based on land values at that time.

### "Should" Instead of "Can"

Despite the limitations on their loans the Federal land banks can nevertheless lend about as much as a farmer can pay back from the earnings of his farm under average conditions and over the span of years involved in the term of the loan. Farm mortgage debt is paid from net earnings and after the living expenses of the family have been met. In other words, payments on a farm mortgage loan generally are made from what is left after payment of taxes, farm operating expenses and family living expenses.

Members of farmers' credit cooperatives are coming more and more to speak in terms of "How much should I borrow?" instead of "How much can I borrow?" They believe that a farmer who has utilized all the credit available to him is in poor position to meet adverse circumstances.

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## Prices of Farm Products

[Estimates of average prices received by farmers at local farm markets based on reports to the Bureau of Agricultural Economics. A average of reports covering the United States weighted according to relative importance of district and State]

Commodity	5-year average		Sept. 15, 1949	Aug. 15, 1950	Sept. 15, 1950	Effective parity price Sept. 15, 1950 <sup>2</sup>	
	Base period price 1910-14 <sup>1</sup>	January 1935- Decem- ber 1939					
Basic commodities:							
Cotton (pound).....	cents.....	<sup>3</sup> 12.4	10.34	29.70	56.95	39.98	31.50
Wheat (bushel).....	dollars.....	<sup>3</sup> .884	.837	1.87	1.97	1.94	2.25
Rice (cwt.) <sup>4</sup> .....	do.....	1.98	1.65	3.78	4.70	4.57	5.13
Corn (bushel).....	do.....	<sup>3</sup> .642	.691	1.16	1.44	1.44	1.63
Peanuts (pound).....	cents.....	4.8	3.55	10.2	11.0	10.9	12.2
Designated nonbasic commodities:							
Potatoes (bushel).....	dollars.....	<sup>5</sup> 1.12	.717	<sup>4</sup> 1.37	1.22	1.05	<sup>6</sup> 1.78
Butterfat (pound).....	cents.....	27.7	29.1	61.7	60.3	60.9	71.7
Milk, wholesale (100 lb.).....	dollars.....	1.73	1.81	4.02	3.75	<sup>7</sup> 3.94	4.48
Wool (pound).....	cents.....	20.1	23.8	47.9	58.3	62.2	52.1
Other nonbasic commodities:							
Barley (bushel).....	dollars.....	<sup>3</sup> .619	.533	1.05	1.12	1.14	<sup>6</sup> 1.49
Cottonseed (ton).....	do.....	26.30	27.52	43.50	70.60	78.80	68.10
Flaxseed (bushel).....	do.....	1.71	1.69	3.63	3.35	3.24	4.43
Oats (bushel).....	do.....	<sup>3</sup> .399	.340	.613	.706	.728	<sup>6</sup> .900
Rye (bushel).....	do.....	<sup>3</sup> .720	.554	1.27	1.25	1.29	<sup>6</sup> 1.74
Sorghum, grain (100 lb.).....	do.....	<sup>3</sup> 1.21	1.17	1.80	1.88	1.77	<sup>6</sup> 2.92
Soybeans (bushel).....	do.....	1.00	.954	2.14	2.42	2.26	2.59
Sweetpotatoes (bushel).....	do.....	.921	.807	2.30	2.18	1.92	2.39
Beef cattle (100 lb.).....	do.....	6.78	6.56	19.70	24.10	24.70	17.60
Chickens (pound).....	cents.....	11.4	14.9	24.4	25.4	24.5	29.5
Eggs (dozen).....	do.....	<sup>2</sup> 21.5	21.7	<sup>4</sup> 52.4	38.0	40.4	<sup>6</sup> 51.9
Hogs (100 lb.).....	dollars.....	7.52	8.38	19.80	21.60	21.10	19.50
Lambs (100 lb.).....	do.....	7.48	7.79	21.60	24.90	25.60	19.40
Veal calves (100 lb.).....	do.....	7.62	7.80	21.90	27.40	28.00	19.70
Oranges, on tree (box).....	do.....	<sup>5</sup> 2.29	1.11	.66	.72	1.23	<sup>6</sup> 3.63
Apples (bushel).....	do.....	1.04	.90	1.82	2.34	2.38	2.69
Hay, baled (ton).....	do.....	8.71	11.20	21.00	20.20	20.30	22.60

<sup>1</sup> Adjusted base period prices 1910-14, based on 120-month average January 1940-December 1949 unless otherwise noted.

<sup>2</sup> Parity prices are computed under the provisions of title III, subtitle A, section 301 (a) of the Agricultural Adjustment Act of 1933 as amended by the Agricultural Acts of 1948 and 1949.

<sup>3</sup> 60-month average, August 1909-July 1914.

<sup>4</sup> Revised.

<sup>5</sup> 10-season average 1919-28.

<sup>6</sup> Transitional parity, 95 percent of parity price computed under formula in use prior to Jan. 1, 1950.

<sup>7</sup> Preliminary.

## Outlook Highlights

### Most Below Parity

The average prices for all farm products has been above parity since June. However, this has been due mainly to the influence of a few commodities.

Among major products, only the following are above parity: Cotton, 27 percent; flue-cured tobacco, 9 percent; wool, 19 percent; cottonseed, 16 percent; beef cattle, 40 percent; hogs, 8 percent; veal calves, 42 percent; lambs, 32 percent.

The majority of the other major farm products are 10 percent or more below parity.

### Livestock Marketings Up

The fall increase in slaughter of meat animals began in August and is expected to continue through the fall. Strengthening of demand as the result of defense expenditures will cancel some of the depressing effects of larger supplies. Hog prices probably will fall no more than the usual seasonal amount but price weakness will be less noticeable for other kinds of meat animals.

### Milk Flow Declining

Milk output is going down about seasonally and is about the same as

# Economic Trends Affecting Agriculture

Year and month	Industrial production (1935-39=100) <sup>1</sup>	Total income of industrial workers (1935-39=100) <sup>2</sup>	Average earnings of factory workers per worker (1910-14=100) <sup>3</sup>	Wholesale prices of all commodities (1910-14=100) <sup>3</sup>	Index numbers of prices paid by farmers (1910-14=100) <sup>4</sup>		Index numbers of prices received by farmers (1910-14=100) <sup>4</sup>				
					Commodities	Wage rates for hired farm labor <sup>5</sup>	Commodities, interest, taxes, and wage rates	Livestock and products			
								Dairy products	Poultry and eggs	Meat animals	All livestock
1910-14 average.....	58	50	100	100	100	100	100	100	100	100	
1915-19 average.....	72	90	152	158	149	147	148	147	153	162	
1920-24 average.....	75	122	221	160	159	181	168	159	163	121	
1925-29 average.....	98	129	232	143	151	184	161	161	155	145	
1930-34 average.....	74	78	179	107	117	121	124	105	94	83	
1935-39 average.....	100	100	199	118	124	121	125	119	108	117	
1940-44 average.....	192	236	315	139	148	211	152	169	145	166	
1945 average.....	203	291	389	154	180	359	189	230	194	207	
1946 average.....	170	276	382	177	197	387	207	267	197	248	
1947 average.....	187	328	436	222	231	419	240	272	219	329	
1948 average.....	192	354	472	241	250	442	259	300	235	361	
1949 average.....	176	325	478	226	240	429	250	251	219	311	
1949											
September.....	174	331	486	224	237	429	248	251	236	319	
October.....	166	307	481	222	237	414	246	258	230	301	
November.....	173	313	474	221	236	429	245	261	216	286	
December.....	179	325	489	221	237	429	246	261	194	280	
1950											
January.....	183	323	450	221	238	429	249	254	158	286	
February.....	180	316	491	223	237	429	248	250	155	306	
March.....	187	337	493	223	239	429	250	243	165	308	
April.....	150	340	496	223	240	427	251	235	161	312	
May.....	195	349	503	228	244	429	254	230	154	342	
June.....	199	361	512	230	245	429	255	227	156	342	
July.....	197	362	514	238	247	429	256	232	173	371	
August.....	205			243	248	429	258	240	191	369	
September.....				250	250	429	259	248	196	372	

Year and month	Index numbers of prices received by farmers (1910-14=100) <sup>1</sup>								All crops and live-stock	Parity ratio <sup>4,5</sup>
	Crops									
	Food grains	Feed grains and hay	To-bacco	Cotton	Oil-bearing crops	Fruit	Tree crops	All crops		
1910-14 average.....	100	100	100	100	100	100	-----	100	100	100
1915-19 average.....	193	161	183	175	201	126		171	164	111
1920-24 average.....	147	125	189	197	155	157	152	162	150	89
1925-29 average.....	141	118	169	150	135	146	145	143	148	92
1930-34 average.....	70	76	117	77	78	98	104	84	88	71
1935-39 average.....	94	95	172	87	113	95	95	99	107	86
1940-44 average.....	123	119	241	138	170	150	164	145	154	101
1945 average.....	172	161	360	178	228	244	207	203	206	109
1946 average.....	201	196	376	237	260	250	182	227	234	113
1947 average.....	270	249	374	272	363	212	226	263	275	115
1948 average.....	250	250	380	270	351	174	214	252	285	110
1949 average.....	219	170	398	245	242	199	201	223	249	100
1949										
September.....	211	166	393	250	227	160	188	212	247	100
October.....	213	161	396	241	221	180	174	210	242	98
November.....	215	157	369	233	220	172	213	210	237	97
December.....	219	168	394	223	225	174	196	210	233	95
1950										
January.....	218	170	382	222	228	185	261	219	235	94
February.....	219	171	389	231	228	186	203	215	237	96
March.....	224	174	389	236	230	193	168	215	237	95
April.....	227	181	389	242	239	206	205	225	241	96
May.....	230	190	387	246	248	195	173	223	247	97
June.....	218	150	388	251	254	207	182	225	247	97
July.....	226	195	387	278	267	211	200	236	263	103
August.....	224	153	319	311	253	200	164	239	267	103
September.....	221	154	428	316	303	217	126	243	272	105

<sup>1</sup> Federal Reserve Board: represents output of mining and manufacturing; monthly data adjusted for seasonal variation.

<sup>2</sup> Computed from data furnished by Bureau of Labor Statistics and Interstate Commerce Commission on pay rolls in mining, manufacturing, and transportation; monthly data adjusted for seasonal variation. Revised January 1950. <sup>3</sup> Bureau of Labor Statistics.

<sup>4</sup> Revised January 1950. <sup>5</sup> Farm wage rates simple averages of quarterly data, seasonally adjusted.

<sup>6</sup> Revised. <sup>7</sup> Preliminary.

<sup>8</sup> Ratio of index of prices received to index of prices paid, interest, taxes, and wage rates. This parity ratio will not necessarily be identical to a weighted average percent of parity for all farm products, largely because parity prices for some products are on a transitional basis. <sup>9</sup> 1924 only.

## Outlook Highlights—Con.

a year earlier. USDA purchases of butter, cheese and nonfat dry milk for price support are considerably lower than in recent months.

Prices in fluid milk markets are going up as they usually do about this time of year. Prices of manufactured dairy products have changed little except for casein which has doubled since the beginning of the Korean war and canned milk which has gone up 5 to 10 percent.

### Fats, Oils Supply Unchanged

We will produce about as much fats and oils from domestic materials this season as last. There will be less cottonseed because of the 39-percent drop in the cotton crop and peanut production will be down moderately. This will be made up by a 25-percent increase in the soybean crop and moderately larger lard, grease and tallow production. Flaxseed production is down about a fifth from last year but large stocks will hold linseed oil production about the same as in 1949-50.

With supplies unchanged and demand stronger because of the increased industrial activity, fats and oil prices in the next 12 months probably will average above a year earlier. However, lard and soybean prices may drop from September levels as marketings reach a peak this fall.

### Potato Crop Larger

The potato crop this year is expected to total 420 million bushels, 18 million bushels larger than last year when the Government bought nearly 77 million bushels for price support. But the Government may not buy any more potatoes than last year for 2 reasons: moderately lower prices may result in increased consumption, and many producers are not eligible for support because marketing agreements and orders were not approved.

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